

Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

Applicant/Contact name and address: **JOHN L LAKE JR
514 LEMOYNE DR
DAUPHIN ISLAND, AL 36528-4404**

1. *Type of action:* **APPLICATION FOR BENEFICIAL WATER USE PERMIT
NO. 43B 30045005**
2. *Water source name:* **YELLOWSTONE RIVER**
3. *Location affected by project:* **SECTIONS 13,23 &24, T6S, R7E, IN PARK COUNTY.**
4. *Narrative summary of the proposed project, purpose, action to be taken, and benefits:*
This project requests to divert 4.46 cubic feet per second (CFS) up to 198.5 acre feet (AF) for irrigation from the Yellowstone River. This request will provide supplemental water on 95.9 acres of alfalfa/grass pasture along the Yellowstone River in Park County from April 20 – October 10 annually. The 95.9 acres will be divided among five tracts for the Yellowstone Stage Stop Estates subdivision each with a separate 400 gallon per minute (GPM) pump and travelling gun irrigation system. The places of use in this application are associated with Statement of Claim No. 43B 195264-00 decreed for 1,125 AF on 333 acres and Statement of Claim No. 43B 195265-00 which is a temporary change authorization for an instream fishery right for 12.5 CFS in Big Creek expiring May 1, 2009.

The DNRC will issue a provisional water use permit if all criteria for issuance under §§ 85-2-311, MCA are met.

5. *Agencies consulted during preparation of the Environmental Assessment:
(include agencies with overlapping jurisdiction)*
Montana Natural Heritage Program
Montana Historic Preservation Office
Montana Department of Fish Wildlife & Parks (MFWP)
Montana Department of Environmental Quality (MDEQ)

Part II. Environmental Review

1. **Environmental Impact Checklist:**

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity - Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.

Determination: **Unknown impact.**

The Yellowstone River is not on the Montana Fish Wildlife and Parks list of chronically or periodically dewatered streams. DFWP has an instream water reservation as well as Murphy rights within this area on the Yellowstone River, and availability competition may arise during April, September and October of the requested period of use due to other existing rights on the source. Impacts to the source itself from this proposed use are possible, but those impacts are not expected to be significant.

Water quality - Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.

Determination: **No significant impact.**

The Yellowstone River is not on the Montana Department of Environmental Quality's list of water quality impaired or threatened streams. This proposed irrigation use is expected to have no significant impact on water quality issues in the area.

Groundwater - Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.

Determination: **No significant impact.**

This application is requesting the use of surface water; therefore, no significant impacts to groundwater quality or quantity are expected.

DIVERSION WORKS - Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.

Determination: **No significant impact.**

Each of the applicants' diversion systems consist of a Kifco-Caprari model D04/80 centrifugal Power Take Off (PTO) pump capable of producing 400 GPM at 163 pounds per square inch (PSI) with a 5-inch supply line and a 4-inch output. Each of the PTO pumps will be attached to a reel of hose with a Nelson SR150-37A sprinkler with 1220 feet of 3.7 inch inside diameter (ID) hose line. The applicant states a flow rate of 385 GPM requires a pressure at the hose reel of 132 PSI while 415 GPM requires 151 PSI. The applicant extrapolated between the two values and determined 142.5 PSI is needed at the hose reel inlet. The also applicant calculated the head loss of using 1000 feet of 5-inch aluminum supply line to be ~33 feet and the maximum lift for any tract to be ~21 feet. The applicant states this equates to a loss of ~23.4 PSI. The applicant calculated (142.5 PSI + 23.4 PSI = 165 PSI) and states the pumps selected can produce up to 163 PSI at 400 GPM according to the pumping chart included in the application.

The applicant states the proposed traveling gun sprinkler system can apply approximately 0.92 acre-inches per hour as it is moved across each tract. The applicant calculated it would take approximately 12.5 hours to apply one inch of water to the smallest tract and 27.4 hours for the largest tract. An irrigation schedule consisting of 25 sets during the requested period of diversion is provided by month, see table below.

Month	Apr	May	Jun	Jul	Aug	Sep	Oct
# of irrigations	1	3	5	6	7	2	1

The applicant explains with one inch of irrigation, 25 sets will apply approximately 24.84 inches of water and can be adjusted in order to not exceed the requested volume of 2.07 AF per acre. At 70% efficiency 17.4 inches of water will be applied to the crop in addition to any effective precipitation. The applicant also states at an average production rate of 1 ton per acre for every 5 inches of water the yield from 95.9 acres is estimated at 3.5 tons per acre.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species - Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."

Determination: No significant impact.

The Montana Natural Heritage Program has identified some species of concern within this proposed project area:

Yellowstone Cutthroat Trout (*Oncorhynchus clarkia bouvieri*)

Gray Wolf (*Canis lupus*)

Grizzly Bear (*Ursus arctos*)

Wolverine (*Gulo gulo*)

Canada Lynx (*Lynx canadensis*)

Wedge-leaved Saltbush (*Atriplex truncata*)

It is not expected that this proposed project will adversely impact any of these species.

Wetlands - Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.

Determination: No significant impact.

No wetlands are claimed within the project area.

Ponds - For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.

Determination: No significant impact.

This project may increase available forage to wildlife in the area and is expected to have little to no effects on fish due to the volume of the remaining source.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.

Determination: No significant impact.

This project should not degrade soil quality or cause saline seep problems within the area.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.

Determination: No significant impact.

There will be some soil disturbance during construction of this proposed project and there is a possibility for spread or establishment of noxious weeds. The landowner is responsible for controlling any establishment of noxious weeds as a result of disturbance.

AIR QUALITY - Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.

Determination: No significant impact.

No deterioration of air quality or adverse effects on vegetation due to increased air pollutants from this project is expected.

HISTORICAL AND ARCHEOLOGICAL SITES - Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.

Determination: No significant impact.

The State of Montana Historic Preservation Office (SHPO) identified multiple resource surveys and sites within the proposed project area. SHPO feels this project could impact other sites within the area and recommends a cultural resource inventory for areas of the proposed project. SHPO suggests a study in this area could determine the existence of and impacts to potential sites.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - Assess any other impacts on environmental resources of land, water and energy not already addressed.

Determination: No significant impact.

There should be no significant impacts on other environmental resources of land, energy, and water from this proposed use.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.

Determination: No significant impact.

This proposed use is not inconsistent with any locally adopted environmental plans and goals for Yellowstone County.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.

Determination: Unknown impact.

There should be no significant impacts on recreational or wilderness activities from this proposed use. It should be noted that there are Murphy rights for the protection of

specific fish species exist in this stretch of river and are usually protected through calls for water made by the DFW&P for their instream flow reservation.

HUMAN HEALTH - Assess whether the proposed project impacts on human health.

Determination: **No significant impact.**

There should be no significant impact on human health from this proposed use.

PRIVATE PROPERTY - Assess whether there are any government regulatory impacts on private property rights.

Yes___ No **X** If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

Determination: **No significant impact.**

OTHER HUMAN ENVIRONMENTAL ISSUES - For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.

Impacts on:

- (a) Cultural uniqueness and diversity? **No significant impact.**
- (b) Local and state tax base and tax revenues? **No significant impact.**
- (c) Existing land uses? **No significant impact.**
- (d) Quantity and distribution of employment? **No significant impact.**
- (e) Distribution and density of population and housing? **No significant impact.**
- (f) Demands for government services? **No significant impact.**
- (g) Industrial and commercial activity? **No significant impact.**
- (h) Utilities? **No significant impact.**
- (i) Transportation? **No significant impact.**
- (j) Safety? **No significant impact.**
- (k) Other appropriate social and economic circumstances? **No significant impact.**

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts: **No significant impact.**

Cumulative Impacts: **No significant impact.**

3. *Describe any mitigation/stipulation measures:* **The applicant states they possess complete control over the diversion system. The applicant has stated in the event that any senior water right makes a call for water, diversion would be ceased to respond to the call.**

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*
The applicant could drill wells or haul water in by truck to supply the amount of water needed for the proposed uses. However, either of these alternatives would be very costly and it is questionable whether the water would be available in the amount requested if wells were to be used.

The “no action” alternative would mean John Lake Jr would not have supplemental water for his five subdivided tracts of land and he would likely not continue his instream flow reservation temporary change on Big Creek, which expires May 1, 2009.

PART III. Conclusion

1. *Preferred Alternative:* **The preferred alternative would be to allow use of water, from the Yellowstone River on the condition that there will be no adverse impacts to any senior water rights.**
2. *Comments and Responses:* **None to report.**
3. *Finding:*
Yes___ No_**X** *Based on the significance criteria evaluated in this EA, is an EIS required?* **No EIS is required.**

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action: **No significant environmental impacts were identified, therefore no EIS is required.**

Name of person(s) responsible for preparation of EA:

Name: **Mark V Corrao**
Title: **Water Resources Specialist**
Date: **March 26, 2009**